

WHAT IS CLAIMED IS:

- Sub A4
1. An earphone cushion, comprising a first resilient ring having opposite input and output faces, a thickness between the faces, and an opening therethrough defining an interior surface between the faces, the input face having associated structure for acoustically coupling the opening to an output face of a speaker, the output face being resiliently conformable to a lateral face of an auricle, and the interior surface flaring outwardly for at least a portion of the thickness.
 2. The earphone cushion of claim 1, wherein the first ring is annular, oval, elliptical, or auricular in shape.
 3. The earphone cushion of claim 1, wherein the interior surface flares out in a direction from the input face to the output face.
 4. The earphone cushion of claim 1, wherein the interior surface flares out exponentially.
 5. The earphone cushion of claim 1, wherein the first ring comprises an elastomer.
 6. The earphone cushion of claim 5, wherein the elastomer comprises microcapsules of a material capable of an endothermic phase change at a substantially constant temperature.
 7. The earphone cushion of claim 6, wherein the microcapsules comprise Frisby Thermasorb microcapsules.
 8. The earphone cushion of claim 5, wherein the elastomer is foamed with at least one of open and closed cells.
 9. The earphone cushion of claim 1, wherein the first ring comprises Frisby Comfortemp.
 10. The earphone cushion of claim 1, wherein the structure associated with the input face of the first ring for acoustically coupling the opening in the first ring to an output face of a speaker comprises the output face of the speaker having an associated flange, the opening at the input face of the first ring being configured to resiliently re-

ceive the output face of the speaker in a complementary, slide-in, elastic engagement, and the interior surface of the first ring having a flange-retaining recess located adjacent to the input face of the ring and configured to resiliently receive the flange of the speaker in a complementary, over-center, elastic engagement.

5 11. The earphone cushion of claim 1, wherein the structure associated with the input face of the first ring for acoustically coupling the opening of the first ring to an output face of a speaker comprises:

the output face of the speaker having an associated flange;

10 a second resilient ring having opposite input and output faces and an opening therethrough defining an interior surface between the faces, the opening at the input face of the second ring being configured to resiliently receive the output face of the speaker in a complementary, slide-in, elastic engagement, and the interior surface of the second ring having a flange-retaining recess located adjacent to the input face and configured to resiliently receive the flange of the speaker in a complementary, over-center, elastic en-
15 gagement;

a third retainer ring having an opening therethrough and an outer periphery configured to be resiliently received in the recess of the second ring in a complementary, over-center, elastic engagement adjacent to the flange of the speaker;

20 an acoustic plug having at least one aperture therethrough, an output end, a flange circumscribing the output end, and an input end corresponding to and configured to be received through the respective openings in the first, second and third rings; and,

25 structure for retaining the input end of the plug in the opening of the third ring such that the flange of the plug presses a first portion of the input face of the first ring against a corresponding portion of the output face of the second ring and acoustically couples the opening of the first ring to the output face of the speaker.

12. The earphone cushion of claim 10, wherein the first ring has at least one circumferential recess between the output face thereof and the flange-retaining recess in the interior surface thereof.

30 13. The earphone cushion of claim 11, wherein a second portion of the input face of the first ring circumscribing the flange of the plug is spaced apart from a corresponding portion of the output face of the second ring, thereby defining a circumferential recess between the input face of the first ring and the output face of the second ring.

4043643-010502

14. The earphone cushion of claim 11, wherein the structure for retaining the input end of the plug in the opening of the third retainer ring comprises an adhesive, a plurality of resiliently supported cams on the input end of the plug, or complementary threads on respective ones of the input end of the plug and the opening of the third ring.

5 15. An earphone, comprising:
a cushion in accordance with claim 1; and,
a speaker having an output face acoustically coupled to the opening of the cushion at the input face thereof.

10 16. A headset, comprising:
at least one earphone in accordance with claim 15; and,
means for acoustically coupling the output face of the cushion to a lateral face of an auricle of a listener.

15 17. The headset of claim 16, wherein the means for acoustically coupling the output face of the cushion to a lateral face of an auricle of a listener comprises a resilient, arcuate band having a first end attached to the at least one earphone.

18. The headset of claim 16, further comprising a microphone attached to the at least one earphone.

19. The headset of claim 18, wherein the microphone is on a boom attached to the at least one earphone.

20 20. The headset of claim 18, wherein the microphone is on a wire suspended from the at least one earphone.

21. In an earphone, a resilient cushion disposed between an acoustic source and an ear, wherein the cushion is composed at least partially of a material capable of an endothermic phase change at a substantially constant temperature.

25 22. The earphone of claim 21, wherein the substantially constant temperature is set before the resilient cushion is made.

23. The earphone of claim 21, wherein the resilient cushion comprises Frisby Thermosorb.

24. The earphone of claim 21, wherein the resilient cushion comprises Frisby Comfortemp.

25. The earphone of claim 21, wherein the resilient cushion comprises a foamed elastomer with at least one of open and closed cells therein.

5 26. A headset, comprising:
at least one earphone in accordance with claim 21; and,
means for holding the acoustic source to an ear with the resilient cushion disposed therebetween.

2025-07-07 10:40:00